

SEQUENCE LISTING

<110> Benning, Christoph

Sanda, Sherrie

Yu, Bin

<120> Compositions and Methods for the Synthesis and Subsequent Modification of Uridine-5-Diphosphosulfoquinovose (UDP-SQ)

<130> MSU-04769

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<170> PatentIn version 3.0

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Glu Leu Arg Asn Arg Leu Asp Tyr Asp Ala Val Phe Gly Thr Ala Leu	
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aac cgg ttc tgt gtg caa gct gct gtt ggt cac cca ctt aca gtt tat	1186
Asn Arg Phe Cys Val Gln Ala Ala Val Gly His Pro Leu Thr Val Tyr	
325 330 335	
ggt aaa ggt ggt cag acg aga ggc tac ctc gat ata aga gac acg gtt	1234
Gly Lys Gly Gly Gln Thr Arg Gly Tyr Leu Asp Ile Arg Asp Thr Val	
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Gln Cys Val Glu Ile Ala Ile Ala Asn Pro Ala Lys Ala Gly Glu Phe	
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Arg Val Phe Asn Gln Phe Thr Glu Gln Phe Ser Val Asn Glu Leu Ala	
375 380 385	
tca ctc gtc act aaa gcg ggt tca aag ctt ggg cta gac gtg aaa aag	1378
Ser Leu Val Thr Lys Ala Gly Ser Lys Leu Gly Leu Val Lys Lys	
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atg acg gtg cct aac ccg aga gtg gag gca gaa gaa cat tac tac aac	1426
Met Thr Val Pro Asn Pro Arg Val Glu Ala Glu Glu His Tyr Tyr Asn	
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gca aag cac act aag ctg atg gaa ctt gga ctt gag cct cac tat cta	1474
Ala Lys His Thr Lys Leu Met Glu Leu Gly Leu Glu Pro His Tyr Leu	
420 425 430 435	
tct gac tca ctt ctt gat tcg ttg ctc aac ttt gct gtt cag ttt aaa	1522
Ser Asp Ser Leu Leu Asp Ser Leu Leu Asn Phe Ala Val Gln Phe Lys	
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gat cgt gtg gac acg aaa caa atc atg cct agt gtt tcc tgg aag aag	1570
Asp Arg Val Asp Thr Lys Gln Ile Met Pro Ser Val Ser Trp Lys Lys	
455 460 465	
att ggc gtc aag act aag tcc atg acc aca taa agtgcagacc aatattacac	1623
Ile Gly Val Lys Thr Lys Ser Met Thr Thr	
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aaaagacttg ctaggcttaa gaggttttgt ccatattaca ttgtgcaggt tctttaatgt	1743
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Phe Gln Glu Lys Lys Pro Arg Lys Ser Cys Val Phe Arg Ala Thr Ala
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Val Pro Ile Thr Gln Gln Ala Pro Pro Glu Thr Ser Thr Asn Asn Ser
65 70 75 80

Ser Ser Lys Pro Lys Arg Val Met Val Ile Gly Gly Asp Gly Tyr Cys
85 90 95

Gly Trp Ala Thr Ala Leu His Leu Ser Lys Lys Asn Tyr Glu Val Cys
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Ile Val Asp Asn Leu Val Arg Arg Leu Phe Asp His Gln Leu Gly Leu
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Glu Ser Leu Thr Pro Ile Ala Ser Ile His Asp Arg Ile Ser Arg Trp
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Lys Ala Leu Thr Gly Lys Ser Ile Glu Leu Tyr Val Gly Asp Ile Cys
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Asp Phe Glu Phe Leu Ala Glu Ser Phe Lys Ser Phe Glu Pro Asp Ser
165 170 175

Val Val His Phe Gly Glu Gln Arg Ser Ala Pro Tyr Ser Met Ile Asp
180 185 190

Arg Ser Arg Ala Val Tyr Thr Gln His Asn Asn Val Ile Gly Thr Leu
195 200 205

Asn Val Leu Phe Ala Ile Lys Glu Phe Gly Glu Glu Cys His Leu Val
210 215 220

Lys Leu Gly Thr Met Gly Glu Tyr Gly Thr Pro Asn Ile Asp Ile Glu
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Glu Gly Tyr Ile Thr Ile Thr His Asn Gly Arg Thr Asp Thr Leu Pro
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Tyr Pro Lys Gln Ala Ser Ser Phe Tyr His Leu Ser Lys Val His Asp
260 265 270

Ser His Asn Ile Ala Phe Thr Cys Lys Ala Trp Gly Ile Arg Ala Thr
275 280 285

Asp Leu Asn Gln Gly Val Val Tyr Gly Val Lys Thr Asp Glu Thr Glu
290 295 300

Met His Glu Glu Leu Arg Asn Arg Leu Asp Tyr Asp Ala Val Phe Gly
305 310 315 320

Thr Ala Leu Asn Arg Phe Cys Val Gln Ala Ala Val Gly His Pro Leu
325 330 335

Thr Val Tyr Gly Lys Gly Gly Gln Thr Arg Gly Tyr Leu Asp Ile Arg
340 345 350

Asp Thr Val Gln Cys Val Glu Ile Ala Ile Ala Asn Pro Ala Lys Ala
355 360 365

Gly Glu Phe Arg Val Phe Asn Gln Phe Thr Glu Gln Phe Ser Val Asn
370 375 380

Glu Leu Ala Ser Leu Val Thr Lys Ala Gly Ser Lys Leu Gly Leu Asp
385 390 395 400

Val Lys Lys Met Thr Val Pro Asn Pro Arg Val Glu Ala Glu Glu His
405 410 415

Tyr Tyr Asn Ala Lys His Thr Lys Leu Met Glu Leu Gly Leu Glu Pro
420 425 430

His Tyr Leu Ser Asp Ser Leu Leu Asp Ser Leu Leu Asn Phe Ala Val
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35 40 45
Pro Ile Ala Thr Ile Glu Arg Arg Leu Lys Ala Trp Gln Glu Thr Gly
50 55 60
Gly Gln Pro Ile Ser Phe Val Asn Leu Asp Leu Ala Ala Asp Tyr Asp
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Arg Leu Cys Ala Leu Leu Leu Glu Thr Gln Pro Asp Ala Ile Val His
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Phe Ala Glu Gln Arg Ala Ala Pro Tyr Ser Met Lys Ser Ala Trp His
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Lys Arg Phe Thr Val Asn Asn Asn Val Asn Ala Thr His Asn Leu Leu
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Cys Ala Cys Val Asp Val Gly Leu Lys Ser His Ile Val His Leu Gly
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Thr Met Gly Val Tyr Gly Tyr Gly Ser His Arg Gly Ala Thr Ile Pro
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Glu Gly Tyr Leu Glu Val Glu Val Val Gln Arg Asp Gly Gln Arg Phe
165 170 175
Glu Glu Lys Ile Leu His Pro Val Asp Pro Gly Ser Val Tyr His Met
180 185 190
Thr Lys Thr Leu Asp Gln Leu Leu Phe Tyr Tyr Tyr Asn Lys Asn Asp
195 200 205
Asn Ile Gln Val Thr Asp Leu His Gln Gly Ile Val Trp Gly Thr Asn
210 215 220
Thr Asp His Cys Asn Leu His Pro Asp Leu Thr Asn Arg Phe Asp Tyr
225 230 235 240
Asp Gly Asp Tyr Gly Thr Val Leu Asn Arg Phe Leu Met Gln Ala Ala
245 250 255
Ile Gly Tyr Pro Leu Thr Val His Gly Val Gly Gly Gln Thr Arg Ala
260 265 270
Phe Ile His Ile Arg Asp Ser Val Arg Cys Val Gln Leu Ala Ile Glu
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Asn Pro Pro Ala Ala Asn Glu Lys Val Arg Ile Phe Asn Gln Met Thr
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 Glu Thr Tyr Gln Val Lys Asp Leu Ala Glu Lys Val Ala Ala Leu Thr
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 Pro Thr Thr Leu Asp Asn Gly Leu Met Ser Glu Val Val Glu Ile Ala
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